Notebook, N-12-06-19

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19 PLATT ST.
NEW YORK.

Book #2
Hard Record Blank.
Experiments

W. ORANGE, N.J.
Ent'd P.M.
JUN 19 1912

Treated Shellac according to formula #6-18-12 #1 in preceeding Book

#6-18-12-#1 with Phenylendiamine forms crystalline mass - but the proper consistancy - add some Stearic Acid - here there seems to be a combination: I obtain a mass that harden clear as glass and brittle - by adding more stearic which seems to go in any proportion I obtain a waxy mass - Hard + dry cutting - want more tenacity - Try

#6-19-12 #1

Stearic Acid - temp. 360°-370° 10 Parts
add Phenelenediamine 2½ "

Heated for 5 hours. Result - a waxy mass - almost Black - fine Structure - Very fluid at 380° - No Bubbles - sets hard on cooling - Remelts only at high temp. 370°

Xy[illegible] Heat + melt
Phenelenediamine +
Stearic acid
After 6 hrs. heating - is Gummy when cooled

A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUN 20 1912

#6-20-12- #1

[illegible] acid	3
Amido phenol	1/4

#6-19-12-#1	2 Parts
#6-17-12-#1 ..	2 "

Condenses too quickly - does not become fluid enough to pour - a small sample upon glass shows fine structure and appears a combination - not tenacious - Waxy Hard enough if it had tenacity. Not sensitive to heat, has contraction Does not stick to mould

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Ent'd P.M.
JUN 20 1912

#6-20-12-#2

#1	water	100 c.c.
	Biborate So.	10 grm.
	Shellac	20 grm.
	Bring to Boil - 15 mi.	
	turn into cold water	400 c.c.
#2	In other Pan cold water	500 c.c.
	Sulphuric acid	3 c.c.

Filter #1 through fine linen twice Dirt + some fatty matter remains on filter.

Turn #2 into #1 stirring briskly after separated filter and wash by heating - the lac contracts lets go the water pour off and add fresh water when again Hot repeat with fresh water - Evaporate last traces of water the lac melts to thick mass - temp 218°F.

Stuff is almost black and has not the toughness of plain Shellac - is hard but grainy

W. ORANGE, N.J. A.N. PETIT
Ent'd P.M.
JUN 20 1912

#6-20-12-#3

#1	Water	100 cc.
	Biborate So.	10 cc.
	Gum Thus	2 cc.
	Dissolve	
	Shellac gradually	20 cc.
	Boil about 15 mi.	
	turn into Cold water & filter	400 cc
#2	Water	500 cc.
	Sulphuric acid	3 cc.

Turn #1 into #2 stir briskly filter - wash by heating in pan using fresh water 3 times - evaporate water melt lac - Bubbles - Clears after few minutes except very tiny specks Sets to Hard brittle mass - not so tough as Plain Shellac - Clear - continued heating forms more tiny blisters - add stearic acid Sample shows a horny mass - too much - becomes thicker - condenses - Fusel oil does not thin it much - generates more Bubbles and Result is Rubbery mass - With Carnaba - Condenses quickly Does not combine with ease -

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W. ORANGE, N.J. A.N. PETIT
Ent'd P.M.
JUN 20 1912

#6-20-12-#4

Water	100 cc.
Biborate So.	15 cc.
Gum Elimi (Manila)	5 cc
the Elimi wont Dissolve.	
Shellac	20 cc.

add some lac gradually until all is taken up, the Elimi seems to coagulate a large portion of the lac - add water 50 cc. the Elimi goes to the bottom as a thick Emulsion - add water 50 cc. Does not go into solution - add Denatured alcohol 5 cc. this seems to Effect a combination the thick stuff from the bottom mixes and brings up a small portion of froth to the surface, tested by cooling found it to be a gum, soft but not sticky - add Water 100 cc

A.N. PETIT, W. ORANGE, N.J.
Ent'd P.M.
JUN 22 1912

#1	Water	45cc.	1½ oz.
	Biborate So.	2 gr.	1/16 oz
	Shellac	11 gr.	3/8 oz

#2

Eugenol about 1 Part
Montan 5 "
Ed. caustic So. little [illegible] water
or until a sample on glass
cools and sets Plastic about the
Consistancy of B's wax - add
more Ed. Caustic So. of water until
quite liquid

Pour #2 into #1

#3	Water	500 cc.
	Sulphuric acid	5 cc.

Pour the above mixture
into #3 - filter - wash
with water 3 times - Evaporate
water - melt.

A.N. PETIT, W. ORANGE, N.J.
Ent'd P.M.
JUN 24 1912

#1	Water	43 c.c.
	Biborate So.	2 gr.
	Shellac	5 gr.

#2	Water	43 cc.
	Sodium Phosphate (dibasic)	5 cc
	Stearic acid	5 cc.

after 45 mi boiling add Water 47 cc.
Boil 20 mi - & filter through
fine linen - some remains on
which looks like well formed soap.
Put the filtered portion on to boil again.

After 5 mi turn #1 into #2 - Boil again
later Pour in 100 cc of Solution of

Sulphuric acid	2 cc.
Water	250 cc.

this Solution separates a gum
from the Stearic acid -
wash & Remelt - Sample when
cold shows grainy Structure -
wax-like cutting - Dont resist scratch
more then Master-wax - But more plastic
looks like a mixture of a portion
of the Shellac

A.N. PETIT
W. ORANGE, N.J.
Ent'd P.M.
JUN 24 1912

Water 15 c.c.
Formic acid 1 c.c.
Shellac 3 gr.
Does not Desolve

#6-24-12-#1

#1 Water 500 cc.
Biborate So – should be 30 50 gr
Shellac 100 gr
Boil until lac is all desolved
and add Hot Water 500 c.c.
let stand over night – Next morning heat to boiling & then allow to cool before filtering

#2 Sulphuric acid 25 c.c.
Water 1250 c.c.

Turn #1 and #2. into another Pan by pouring one into the stream of the other so that it mixes before it reaches the 3rd Pan –

#3 Boric acid 5 grm
water 250
Heat

Mix #1 with #3 – there is no seperation – in fact it seems to promote solubility

#6-24-12-#2

Boric Acid 2 grm
Water 50 c.c.
Shellac 10 grm.
Would not Desolve Shellac
add Biborate So – 3/4 grm.
& water 30 c.c.

the amount of Biborate added is just enough to neutralize the acid – which now Desolves the Shellac
A Small portion rises to the surface which is the Exact color of The Shellac – the Solution color is a blend of Pink & Brown –
Add – water 20 c.c.
Boil 25 minutes & filter –
found the largest portion on the filter undesolved – add more Biborate 3/4 grm.
Bring to Boiling – & filter – some remains on filter undesolved – not much
Put back on flame and add Boric acid 3 grm
& Water 80 c.c.
this makes the Solution more Milky and some insoluble portion of lac separates to float on top. skim it off. Cooled the Solution – will

Continuation

not seperate - add Ice water about 250 c.c. Solution simply becomes thinner and appears to be a true one. add Acetic acid - gradually 7 c.c. Stirring briskly. Seperation takes place. Put back over flame as soon as warm the lac gathers in spongy like form. Melt in water - bring to boil - 15 times to wash out the acid and then the water did Color litmus paper -

Melt slowly temp around 220° - 240° All Bubbles were not elliminated - But is a considerable improvement - at first the Bubbles are plentiful - but clears after a time - a sample upon glass show a Very good and clearer mass than any thing yet considering the Hardness - Toughness - too Brittle for Record cutting add some Stearic acid which had been over the flame for about 1 hr. to evaporate Volatile matter. it seems to combine - added the Stearic little by little up to the point when a sample upon glass showed the proper cutting consistancy ———

and then was not liquid enough to pour off freely - shows plenty fine bubbles - like froth.

Condensed after short time - about 3/4 hr.

A.N. PETIT
W. ORANGE, N.J.
Ent'd P.M.
JUN 26 1912

Boil # 6-24-12-#1 into Sodium chloride Solution into which is add. a little Sol.., Caustic So - Enough to turn litmus paper slightly - this is to draw out of the Shellac any free acids - and wash with water to boiling

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W. ORANGE, N.J.
Ent'd P.M.
JUN 26 1912

#6-26-12-#2

Boil Stearic Acid in Sodium Chloride Saturated solution into which is added a little Ed. Caustic So. - then this done with sulphuric acid and wash with water to boiling - filter out water and Evaporate produces a Stearate of Redish color which Dissolves the treated shellac But the little tiny bubbles are constantly coming through the Dope when in melted state.

#6-26-12 #2	2 Parts
Treated Shellac	2½ "

The resulting Dope after cooled & set is of Very good cutting quality - after 24 hrs. turns out Brittle - too hard for the purpose Cannot scratch with the finger-nail - Good structure.

Try again with equal parts -

not made

#1	Water	50 c.c.
	Ed. Caustic So.	5 grm.
	Stearic Acid	15 "
	Dissolve & add Water	200 c.c.

#2	Water	50 c.c.
	Biborate Soda	5 grm.
	Shellac	20 grm.
	Dissolve & add water	200 c.c.

Turn #1 into #2 bring to boiling & Filter

#3	Water	500 c.c.
	acid	

turn #3 into above mix by pouring one into the other stream so that it mixes on its way down

W. ORANGE N.J. A.N. PETIT
Ent'd P.M.
JUN 27 1912

#1

Water	50 cc
Ed. Caustic So -	4 gr.
Olive oil	29 c.c.

Heat moderate - after 1 hr. add

Hot water	150 cc

after another hr. turn into #2

#2

Water	300 cc
Biborate So -	5 gr
Shellac	20

2½ hrs. from the start filter and precipitate with solution #3

#3

Water	400 cc.
Sulphuric Acid	4 cc.

Turn gradually #3 into the first mix. here 3 solids seperates - a thick glutinous mass - an oily mass on top and a spongy mass at bottom

Melt the glutinous mass - Bubbles much - a sample on glass shows a soft Rubbery Dope - Bubbles go on forming after 2 hrs. Heating

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W. ORANGE N.J. A.N. PETIT
Ent'd P.M.
JUN 27 1912

Water	100 cc
Ed. Caustic So	5-5-5-10 gm.
Tar Oil	25 cc

Boil 45 mi. became thick Solution and then gathered in lumps - add ~~Hot~~ water 50 cc. the lumps Dissolved to thin liquid

Water	100 cc.
Sulphuric acid	10 c.c.

A mixture of oily matter and a glutinous matter rises to the top - Pour off liquor wash with cold water and finaly with a Solution Sulphuric 5 parts water 50 and again with water what remains has the appearance of Dark brown thick viscous mass - Melt this to Evaporate Volatil matter a sample upon glass shows a tendency to Condense - take of this

take of this	2 Parts
Shellac	1 "

Bubbles much at begining and thickens after a while clears some & becomes thinner Bubbles sticks in form of froth - When it is thin enough to flow its too soft when hard enough is too thick -

A.N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUN 28 1912

Water	25 c.c.
Biborate So -	2½ grm.
Carbonate So -	1½ "
Gum Olebanum	10 grm.

The gum desolves slowly add
more water gradually - Keep solution thick 25 c.c.
by the time the gum is desolved the water
is much evaporated add more 25 c.c.
Gum disintegrate and in suspension
throughout. add Denatured alcohol 5 c.c.
alcohol addition brings gum into finer
state of division but not true solution.
Add Shellac 10 grm.
Bubbles quite some, Keep on stirring
the bubbles gradually disappear the
Solution becomes more dense about
the consistancy of Honey - add water 75 c.c.
Boil until evaporated & add " 25 c.c.
Boil all togather 3 hours & turn into
Water 250 c.c.

Precipitate with Sulphuric acid Solution
only a small portion seperated the
Balance was inseperable with all
acids. the portion which seperated
would not melt to a fluid -

A.N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUN 28 1912

#6-28-12-#2

Water	20 cc
Sodium Carbo-	1.0 gr
Shellac	5.0 gr

Started to boil 3.40
at 4.40 add water to liquify 400 cc
add Formic acid to precipitate 5 c.c.
Evaporate water

#1
Water	20 cc
Ammonium Carbo-	1 gr
Shellac	5 "

Started to Boil at 3.15, Condenser on
at 3.40 add warm water 50 cc.
Cover off to allow ammo. escape

#2
Water	20 cc.
Amm. Carbo.	1 gr
Stearic acid	5

add Stea. acid slowly. it froths much
after all taken up add water 20 cc
then turn #2 into #1 and let
come to Boil

#3
Water	100 cc
Formic Acid	2 cc

Turn #3 into mixture. only a portion of the lac is thrown down. a considerable amount of fat comes to the top
Skim of - Remelt lac. #6-28-12-#3

A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUN 29 1912

Nitro cl. Nap- 1 — 5 gram.
Ammonium Carbonate 1/8 - 1/8 - 1/8 - 1 gr.
Shellac 6 gr.
Does not Combine

Water 25 c.c.
Ammonium Carbonate 1 gr.
add little Phenylenediamine

[illegible] wax ([illegible]) 2 gr
2-28-12-#2 ½ - ½ "
Parachloraniline ½ "

Water 50 c.c.
#1 { Tungstate Soda 10
Cabinet-makers Glue 10
after ½ hr. boiling the Tungstate would not dissolve - add water more 50 c.c.
Then add the glue
Monday, July 1st Reheat — add water 50 cc

#2 { Water 200 c.c.
Hydrochloric Acid 5 c.c.
turn #1 into #2 — precipitates into plastic mass.
add Zinc white — Reprecipitates and after while seems to dissolve

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A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUL 1 1912

7-1-12-#1

#1 { Water 200 c.c.
Tungstate So 10 gr
Cab. Glue 10 gr
Boil 10 min - add -
Ed. Lime 5 gr

Water 100 c.c.
Hydrochloric acid 1 - 6 c.c.
A Powdery mass is thrown down

7-1-12-#2

Denatured alcohol 50 c.c.
Stearic acid 20 gr
Carbonate So - crystals 5 gr
when all dissolve add Sul. acid 5 c.c.
Alcohol & Soda is probably thrown down

7-1-12-#3
Alcohol (Denatured) 5-10 c.c.
Carnauba wax 5 gr.
Ed-Caustic So ½ "
after 1 hr. add Parachloraniline 1 - 1 gr

Cajuput oil Dissolves Shellac
produces Rubbery mass — More plastic than Elastic

A. N. PETIT W. ORANGE, N. J.
Ent'd P.M.
JUL 1 1912

Tetra cl. Nap-	5
Lab. Sterate So	2
Shell-	5

Stearate too strong in So- the melting point so high that Shellac carbonizes before melting to fluid.

A. N. PETIT W. ORANGE, N. J.
Ent'd P.M.
JUL 2 1912

Montan Clay	2 gr
Japan wax	2 "
Lab. Stearate So	½
after ½ hr. evaporating add Napthaline	1 "

Sets when cool to Soft plastic mass.

Montan wax	2
Oleic acid	1—2.
Carnaba wax	½
6-28-12-#2	1-1-1

the Shellac precipitates separately

Stearic acid	3
Montan	2
Cerasin	1
Seperation on cooling add Gum Damar	2
Clears it on cooling but softer add Shellac	1
Does not combine add Napthaline	1

Will not Combine

Water	50 c.c.
Lab. Stearate So-	½ gm.
Dont dissolve - add Ammon Carb	½

NG.

Carnaba wax	2 gm
Dinitronapthalene	¼ "
Shellac #6-28-12-#2	1

Dont combine

A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUL 2 1912

Phenanthren mixes. with Carnaba wax to reduce its brittleness

#7-2-12-#7

Carnaba wax 2 gr
Phenanthrene ½ "

Result. Grainy Structure -

A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUL 3 1912

#7-3-12-#1

Tar oil
Nitric acid
bring to boil
Wash in Caustic So. Solution
Nitrate again
Wash in caustic So. Sol. to the boiling - pour off liquor & wash again with water:
Evaporate water

#7-3-12-#1 ——— 2 gr
Bubbles much - like froth -
add Carnaba - ¼ gr
froths much more - N.G.

A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUL 3 1912

Stearic acid 12 gm.
Napthaline (melt & add) 6 "
Shellac (Dissolve & Saponify) 12 "
Carbonate So. (Crystals) 7 3/4 "
after 1½ hr. add Shellac - 12 "
Keep temp between 220° & 230°
would not Combine the Shellac would stay at the Bottom and the Stearine above. add
Trichlor-ethylene 1 c.c.

2 P.M. Stearic acid 6 gr.
Phenanthren (melt & add) 2 "
Shellac Dissolve & Saponify) 6 "
Carbonate So. (crystals) 1¼ "
Temp. 260° after 1½ hrs. was not combined add Trichlorethylen ½ c.c.
½ hr. later add Shellac 6 gr.
Bubbles - Pour off at 4.45

Tetra Cl. Nap. - Stearic acid - Trichlorethylen & Shellac - look like Combination - But - Bubbles

A. N. PETIT
W. ORANGE, N. J.
Ent'd P.M.
JUL 5 1912

Water	100 c.c
Sodium-Ammonium-Phosphate	5 gr
Casein	5

~~Does not~~ Dissolve —

#7-5-12-#2

Water	100 c.c.
Sodium phosphate (tribasic)	5 gr.

Does not all dissolve - filter

Water —	100 c.c
Sodium phosphate (Bi-basic)	5 gr.
[illegible] acid	
Casein	5 gr.

Disintegrates after ½ hr. Boiling add

hot water	100 cc

Spreads out more but does not Dissolve

add Denatured Alcohol	5 c.c.

Does not show any effect - add

Sodium chloride Solution - about	25 c.c.

this makes a clearer solution - !

add Shellac	20

Shellac melts to flocculent mass -

add Sodium chloride Solution	25 c.c.

Solution is now neutral - Pour off and wash with water & melt to evaporate last traces of water. Very Heavy Bubbles add Stearic acid 10 gr

Could not clear the Stuff — N.G.

Sample shows poor mixture
Stuff no tenacity

A. N. PETIT
W. ORANGE, N. J.
Ent'd P.M.
JUL 5 1912

#7-5-12-#2 —

Shellac	10 Parts
Master wax	4 "
Boil add water	100 "

Water about	200 c.c.
Tartaric acid (limit)	3 gr.

Precipitate & wash with Boiling water 3 times - when neutral - Melt to Evaporate last traces of water temp. 220-230°-240°

4. P.m

Water	250 c.cm.
So. Phosp. (Tribasic)	5 gr.
Shellac	10 gr.
Light Carnauba wax	4 "

Boil wax floats long time - Some seems to be taken up - froth is produced and the wax becomes Colored Pinkish. After 1½ hr. Boiling no more wax can be seen floating - looks as if all taken up. add more water to make more fluid to filter - the addition of water bring out Some wax - let stand over night - filter - when wax was dried weighed 5 gr. when Melted weight 4 gr. Smells Carnauba

W. ORANGE, N.J. A.N. PETIT
Ent'd P.M.
JUL 6 1912

Water 200 c.c.
So. Phosphate (tribasic) 10 gr.
Boil ½ hr. would not all desolve
add water 100 c.c.
Some particles would not desolve add
So. Phosphate (tribasic) 10 gr.
Heat to Boiling + add
9.30 Light Carnauba wax 5 gr
the Solution is now much alkaline
10.30 whatever liquid that remains now
is all into the wax which is like
thick emulsion
10.45 add Boiling water 250 c.c.
the Emulsion gathers in a mass at Bottom.
Boil – the stuff seems to desolve – is less
alkaline to paper test. add Shellac 5 gr
only about one part to begin with the
Solution reddens immediatly. the
waxy stuff brakes up to smaller pieces –
11.30 The whole thing now looks like a perfect
Solution – with exception of a little scum of froth.
add water – cold 50 c.c.
this brings up out of solution only very
little waxy or fatty matter – Solution
boils at 212°
11.40. froth is now all disappeared – allow to cool –
a scum of waxy or faty stuff comes to the surface – not much.
when wax was melted weight 5 gr.

W. ORANGE, N.J. A.N. PETIT
Ent'd P.M.
JUL 6 1912

#7-6-12-#2

In Large pan
Water 2000 c.c.
So. Phosphate (tribasic) 50 gr.
Heat to 160°. + add
11.15 add Shellac (all at once) 200 gr
Stir – desolves in 20 mi.
Solution is Red – little froth on top – left
to Cool over over Sunday ——

There was a scum of fatty stuff –
Filter through paper –

W. ORANGE, N.J. A.N. PETIT
Ent'd P.M.
JUL 8 1912

Formic Acid Solution – acid 1 Part
Water 1000

2½ parts of this acid solution will
seperate the solid from 1 Part of
the above Shellac Solu. #7-6-12-#2 But
in very thin floculent form. & when
this is heated a small portion comes to the
top and the Balance seems to go into
solution again.
Common Salt Saturated Solution (normal temp.)
200 c.c. precipitates the full portion above.
Evaporate to limit by heating – ~~when wax sets Hard~~
When water is all evaporated the mass
shows a crystal salt separating from the Lac.

A.N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUL 8 1912

7-8-12-#1

Water 250 - 250 - 250 - 500 c.c.	
So. phosphate (tribasic)	13 gr
Shellac	57 gr

Let cool over night -
is not liquid enough to go through filter paper - must have more So-phosphat.

7-9-12-#2

# 7-6-12-#2	5 gr
Stearic Acid	2 "

Makes pretty compact and of the proper consistancy - Some air Bubbles.

Stearic acid	5
So- Phosphate (tribasic)	2
# 7-6-12-#2	7

A.N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUL 9 1912

Orthochloraniline	50 c.c.
Shellac	20 gr.

Heat 280° -
let it rest in oven ½ hr.
Added Stearic acid & more shellac
turns out too gummy - plastic -

Stearic acid	5 gr
Amm. Carbonate	1-1 "
Shellac	6 "

Bubbles

A.N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUL 10 1912

Stearic Acid	1-5
Manganese Acetate	2
Shellac	

Coagulates

Ed. Master wax	5 gm.
# 7-6-12-#2	2-5 "

Melt - Bubbles much add
aceton 2 c.c.
Bubbles - more - add
acetanilide ½ gr.
Bubbles just the same

W. ORANGE, N.J. A.N. PETIT.
Ent'd P.M.
JUL 1 0 1912

Tetra Cl-Nap.	5 gr.
Stearic acid	2 "
Acamlide	1/2 "
Shellac #7-6-12-#2	6 "

Very full of Bubbles

W. ORANGE, N.J. A.N. PETIT.
Ent'd P.M.
JUL 1 1 1912

Water	100 c.c.
Potass - Sulphate	1 gr
Shellac —	

Does not Dissolve

Water	100 c.c.
Hypophosphate	1 c.c.
Shellac —	

Does not Dissolve

Amm. Rhodanat	2 gr
Stearic acid	2 "
Shellac	5

Phosphoric acid	10 gr.
Water	100 c.c.

Phosphor - acid Soln.

"

W. ORANGE, N.J. A.N. PETIT.
Ent'd P.M.
JUL 1 1 1912

#7-11-12-#2

Water	100 c.c.
Sodium phosphate (tribasic)	2 gr
Shellac	8 "

Boil — and add

Xylidine	2 c.c.

Boil — 15 mi & filter
Too thick to filter should have more water or the Xylidine [illegible] the lac.

Phosphoric acid Soln.	40 cc
Water	160 cc

Precipitate - the resulting liquor turns Brick
Put Back on heat to bring to Boil then Pour off liquor & add fresh water to wash.
Melt - Bubbles - add

Stearic acid	2 gr.
Syn. Camphor	1/2 "

A. N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUL 11 1912

7-11-12 #3

water	200 cc
Carbonate So-	8 gr
Shellac	12 "
Boil 10 min & add	
Stearic acid	5 gr
Syn Camphor	2 "
Phosphoric acid sol-	125 cc
Water	125 cc

to precipitate - Bring to Boil
pour off liquor & add fresh water
and bring to Boil - pour off
Evaporate water & let reduce to
quite a clear liquid - very liquid
and not much Bubbles - about the
best yet so far as the fluidity -
Grainy - waxy mass - too soft -

A. N. PETIT W. ORANGE N.J.
Ent'd P.M.
JUL 12 1912

7-12-12 - #1

Stearic Acid	20 gr.
Glycerine	10 cc.

Heat to 300° for 1½ hr.
Acid now weigh 1½ gr. more.

# 7-12-12 - #1	5 gr
# 7-6-12 - #2	5 "

7-12-12 - #3

water	1000 cc
So- phosphate	18 gr
Shellac	8 "

The So-phosph would not all [illegible] - tested with litmus paper - it showed to be alkaline - neutralized it with Phosphoric acid then added Shellac - when about 3 parts had been added the solution turned acid - neutralized it with caustic So- add more shellac and the solution again turned acid - add more Caustic So. for every portion of shellac added - it required some So. to bring it neutral.

A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUL 13 1912

Water 100
So. Oxalate 2
Shellac 8
Will not Dissolve Shellac

7-13-12 - # 2

Water 25 cc
Glycerine 5 cc
So. Borate 1 gr.
Boil - let evaporate water - High temp.
After about 1/2 hr. all the Water is illiminated and the Mass becomes Very fluid & clear - no signs of Bubbles.

After 24 hrs standing The glycerine is separated out

7-13-12 - # 3
Large Evaporating Dish
7-13-12 - #2 50 cc
Glycerine 5 c.c.
let Evaporate

7-15-12 # 3

Water 50 cc
~~Dextrine~~ 1/2
So - phosphate (tribasic) 1
Shellac 4
Let cool & filter - Evaporate water - Bubbles - much of Separates -

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A.N. PETIT W. ORANGE, N.J.
Ent'd P.M.
JUL 15 1912

Acetic ~~acid~~ acetine 10 c.c.
Glycerine 10 c.c.
Heat up to 265° & let cool
forms liquid - wont Dissolve Shellac

Water 125 cc
So. phosphate (tribasic) 2 gr
Montan wax 1 "
Boil - ~~Does not~~ Dissolve - add
Glycerine - Nothing doing - add 1 c.c.
Denatured alcohol " " 3 c.c.
Shellac 6 "
Mixt. Don't Mix

Water 50 cc
C. Starch 1/2 gr
So - phosphate (tribasic) 1 "
Boil & add
Shellac 4
Starch Separates on Cooling

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#7-15-12-44

Stearic acid	10
Syn. Camphor	10
So. Phosphate (Tribasic)	3½

#1

After 1 hr. Heat 260°-270° - add

Water	4 c.c.

this makes considerable froth which clears shortly and a sample upon glass shows better combination

When all Bubbles have cleared off let cool & filter Stearic acid Remains on filter

Water	125 cc
So. Phosphate (Tribasic)	2
Shellac	8
#1 mix	2

Bubbles cannot be eliminated

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#7-16-12-#1

Water	500 cc
Tribasic So-Phosphate	25 gr

Filter

#7-17-12-#1

Tannic Acid Solution

Water	100 cc
Tannic acid	1 gr.

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Tan. Soln.	50 c.c.
Shellac,	1-1 gr

Heat - wont dissolve add

So- Phosphate (Tribasic)	½ gr

Does dissolve - Add

Tan. Soln -	50 cc
So- phos -	½ gr
Shellac	3 gr

Solution acid
Does not all dissolve - add

So - Phos - another	½ gr

When all dissolved let cool & filter
Evaporate Water

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# 7-17-12-#3 . 50 c.c.
[illegible] 1 c.c.
Evaporate water
Bubbles [illegible]

Montan wax . 10 gr.
Nitric acid 5 c.c.

#1 { Sample upon glass
# 7-17-12-#3

#2 { Xylidine 1 c.c. [illegible] 1 c.c.
Dissolve in water and precipitate
the #1 & evaporate water

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Montan wax Dissolve
with Gasoline over
steam table add Xylidine
when liquid add water &
will not Dissolve

# 7-18-12-#1

Xylidine 25 c.c.
Nitric acid 20 c.c.
the action [illegible] produced a
salt-like mass — yet there are still
some [illegible] to still hold
Xylidine and more pure nitric
would probably be dangerous — so
add water (cold 300 c.c.
Nitric acid 5 c.c.
Stir and mix thoroughly — thick
froth rises and various size particles
to the bottom. Skim off the froth
and Heat until all clear
and Heat the other portion separately
when clear — filter through fine linen &
allow to cool. Crystals are formed clear
& transparent
The skim also forms crystals somewhat coarser —
Soluble in water

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{#7-18-12-#1 ——— 4. gr
{Water 5.0 c.c.

This new acid solution will precipitate the Shellac from the So-phosphate solution